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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,439	06/29/2001	Kenneth P Wilson	1082-143	8247

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EXAMINER

MUSSER, BARBARA J

ART UNIT PAPER NUMBER

1733

DATE MAILED: 02/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,439

Applicant(s)

WILSON, KENNETH P.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether the claim requires that the reinforcement be carbonized or not. For the purposes of examination, it is assumed that the reinforcement is not required to be carbonized. It is unclear whether applicant is intending the reinforcement to be a preformed layer prior to application of the resin matrix. For the purposes of examination, it is assumed that the claim does not require a preformed layer prior to application of the resin matrix.

It is unclear what the difference between fibers and filaments in claims 2 and 3 and 8 and 9 is.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Herring(U.S. Patent 4,504,532).

Herring discloses an insulator for the blast tubes of a rocket motor assembly comprised of phenolic resin and polyaramid pulp.(Abstract)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Binning et al.(U.S. Patent 3,699,210)

The admitted prior art discloses carbonizing a viscose rayon woven mat, impregnating it with a resin, and lining the interior of a rocket nozzle with the impregnated material. However, such material is no longer available.(Specification, Pg. 1-2) The admitted prior art does not disclose carbonizing a polyaramid mat. Binning et al. discloses carbonizing polyaramid fibers and impregnating them with resin. The fibrous mat can then be used for nose cones or rocket nozzle exhausts.(Col. 1, ll. 35; Col. 2, ll. 39-43) A less preferred fiber is rayon.(Col. 3, ll. 26) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the rayon of the admitted prior art with polyaramid since rayon is no longer available and since Binning prefers polyaramid to rayon. It is noted that the fibers form a flexible

layer(Col. 1, Il. 28) and thus one in the art would appreciate that these materials were intended to be used insulation.

Regarding claims 2 and 3, Binning describes the fibers as yarn.(Col. 4, Il. 20) This suggests the fibers are carded and yarn-spun as that is how yarn is formed. Additionally, one in the art would appreciate that the fiber would be formed via any conventional method such as carding and yarn-spinning. Absent unexpected results this is considered obvious.

Regarding claim 4, Binning discloses the fibers can be in a matted form.(Col. 3, Il. 38-40) Felts and flocks are made of matted fibers.

Regarding claims 5 and 6, the Binning discloses the fibers can be used in rocket nozzles and nose cones.(Col. 2, Il. 39-40) Since the material is flexible(Col. 1, Il. 28), one in the art would appreciate that the material would be used as a lining for the nozzle and nose cone rather than forming the external surface.

7. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Binning as applied to claim 1 above, and further in view of Hirsch et al.(U.S. Patent 3,576,769).

The references cited above do not disclose the polyaramid being poly(m-phenyleneisophthalamide)[NOMEX] though Binning does disclose the polyaramid can be a phenylene which is not ortho.(Col. 1, Il. 52-54) Hirsch et al. discloses carbonizing polyaramid to form ablative composites wherein the polyaramid can be NOMEX.(Abstract; Col. 3, Il. 9-10) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any type of polyaramid such as

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NOMEX as the polyaramid in the admitted prior art and Binning since Binning discloses using polyaramids having phenylenes which are not ortho, since Binning does not indicate only specific polyaramids can be used, and since NOMEX is known in the art as a heat-resistant material.

Regarding claims 8 and 9, Binning describes the fibers as yarn.(Col. 4, ll. 20) This suggests the fibers are carded and yarn-spun as that is how yarn is formed. Additionally, one in the art would appreciate that the fiber would be formed via any conventional method such as carding and yarn-spinning. Absent unexpected results this is considered obvious.

Regarding claim 10, Binning discloses the fibers can be in a matted form.(Col. 3, ll. 38-40) Felts and flocks are made of matted fibers.

Regarding claims 11 and 12, the Binning discloses the fibers can be used in rocket nozzles and nose cones.(Col. 2, ll. 39-40) Since the material is flexible(Col. 1, ll. 28), one in the art would appreciate that the material would be used as a lining for the nozzle and nose cone rather than forming the external surface.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-305-1352**. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



BJM
February 10, 2003



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700